CLAIMS

1. A teaching pendant enabling device including first and second enabling signal circuits each configured to selectively output an enabling signal for enabling a teaching signal given to a mechanical apparatus in accordance with operated states of first and second deadman switches each configured to assume a first OFF-state when unoperated, an ON-state when half-operated, and a second OFF-state when completely operated, comprising:

two switching means configured to open/close an enabling signal output line of a respective one of the first and second enabling signal circuits; and

first and second monitor circuits each configured to actuate a respective one of the two switching means in accordance with results of detection of the operated states of the first and second deadman switches,

wherein, after an operating member of at least one of the first and second deadman switches has been turned into the second OFF-state, each of the first and second monitor circuits causes the respective one of the two switching means to keep the output line in an open state until both of the first and second deadman switches each made to assume the first OFF-state are detected.

2. The teaching pendant enabling device according to claim 1,

wherein the first deadman switch has:

first to fourth normally closed contacts each configured to become open or closed in accordance with any one of operated positions including a first position assumed in an unoperated condition, a second position assumed in a half-operated condition, and a third position assumed in a completely operated condition; and

first and second main contacts each configured to assume an OFF-state at the first and third positions and an ON-state at the second position,

wherein the second deadman switch has:

fifth to eighth normally closed contacts each configured to become open or closed in accordance with any one of operated positions including a first position assumed in an unoperated condition, a second position assumed in a half-operated condition, and a third position assumed in a completely operated condition; and

third and fourth main contacts each configured to assume an OFF-state at the first and third positions and an ON-state at the second position,

wherein the two switching means are first and second relays, the first relay having first and second normally open contacts and a ninth normally closed contact; and the second relay having third and fourth normally open contacts and a tenth normally closed contact,

wherein the first enabling signal circuit includes

the first normally open contact connected in series with a parallel circuit parallel-connecting the first and third main contacts; and the second enabling signal circuit includes the third normally open contact connected in series with a parallel circuit parallel-connecting the second and fourth main contacts, and

wherein the first monitor circuit connects the first relay in series with a parallel circuit parallel-connecting a first series circuit in which the first, fifth, and tenth normally closed contacts are connected in series and a second series circuit in which the third and seventh normally closed contacts and the second normally open contact are connected in series; and the second monitor circuit connects the second relay in series with a parallel circuit parallel-connecting a third series circuit in which the second, sixth, and ninth normally closed contacts are connected in series and a fourth series circuit in which the fourth and eighth normally closed contacts and the fourth normally open contact are connected in series.

3. A teaching pendant enabling device including plural enabling signal circuits each configured to selectively output an enabling signal for enabling a teaching signal given to a mechanical apparatus in accordance with operated states of plural deadman switches each configured to assume a first OFF-state when unoperated, an ON-state when half-operated, and a second OFF-state when completely operated, comprising:

three or more switching means each configured to open/close an enabling signal output line of a respective one of the plural enabling signal circuits; and

three or more monitor circuits each configured to actuate a respective one of the three or more switching means in accordance with results of detection of the operated states of the plural deadman switches,

wherein, after an operating member of at least one of the deadman switches has been turned into the second OFF-state, each of the three or more monitor circuits causes the respective one of the switching means to keep the output line in an open state until all of the plural deadman switches each made to assume the first OFF-state are detected.